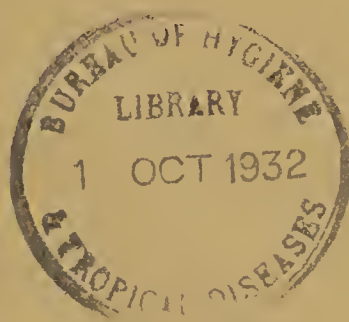


AZ 169

Bechuanaland Protectorate.



*Annual Medical and Sanitary Report
For the Year 1931.*

*Printed by
Waterlow and Sons Limited,
London Wall, London.
1932.*

161

D.O. 3.

*Bureau of Tropical
Diseases.*

Communications on this subject
should be addressed to—

THE UNDER-SECRETARY OF STATE,
DOMINIONS OFFICE,
DOWNING STREET, LONDON, S.W.1,
and the following number quoted:—

11517/15.

*Subject: Bechuanaland
Protectorate Annual
Medical and Sanitary
Report, 1931.*

Reference to previous correspondence :

*Letter ^{to} from the Dominions Office of the 2nd April 1932.
11517/10.*

Copy Report 1931.
Transmitted by direction of the Secretary of State for
Dominion Affairs.

A copy has also been sent to the

Dominions Office, Downing Street,

30 SEP 1932 19

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BECHUANALAND PROTECTORATE.
ANNUAL MEDICAL AND SANITARY REPORT.

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SECTION 1. - ADMINISTRATION.

(a) Staff. (As on 31st December, 1931)

European:

Principal Medical Officer
6 Medical Officers.
3 Subsidised Medical Missionaries.
6 Staff Nurses.
2 Dispensers.
1 Principal Medical Officer's Clerk.



Native:

1 Dispenser.
1 Pupil Dispenser.
4 Medical Orderlies.
4 Male Nurses. (Probationers).
5 Female Nurses. (Probationers).

Appointments, Changes, etc., in the Staff.

Dr. Ronald H. Mackintosh, L.R.C.S. (Ed.), L.R.C.P. (Ed.), L.R.F.P. & S (Gl.), Medical Officer, Gaberones, retired on 1st April to take the appointment of Assistant Government Pathologist in the Department of Health, Union of South Africa.

Dr. Gerard Munro Malan, M.B. (University of Cape Town), who had been subsidised Medical Missionary at Mochudi, was appointed on 1st May, as a Medical Officer on probation, vice Dr. R. H. Mackintosh (resigned), and was posted to Gaberones.

Dr. Desmond Drew, B.A., M.B., Ch.B. (Dublin), Medical Officer, Francistown, on leave from 1st February to 31st March, 1931.

Dr. A. Austin Morgan, B.A., M.B., B.Ch., (Dublin), B.A.O., Medical Officer, Serowe, on leave to the United Kingdom from 1st May to 15th November, 1931.

Dr. Maximilian Gerber, M.A., M.D. (Dublin), performed relieving duties for Medical Officers on leave, two months at Francistown, six months at Serowe, and the rest of the year at other Stations for short periods.

Dr. A. A. Huse, L.R.C.P. & S. (Ed.), L.R.F.P. & S. (Gl.), Subsidised Medical Missionary at Kanye, resigned on the 31st January, 1931, and Dr. A. N. Tonge, M.D., L.R.F.P. & S. (Ed.), was appointed in his place on the 17th June, 1931.

Miss R. M. Lewis, Staff Nurse, Lobatsi Hospital, resigned on 30th June, 1931.

Mrs. J. H. de Villiers, Temporary Staff Nurse, Lobatsi Hospital, resigned on the 16th August, 1931.

Miss O. M. Weiss appointed Staff Nurse on 1st March, 1931, and posted to Lobatsi Hospital.

Miss S. M. Harrison appointed Staff Nurse on 1st May, 1931, posted to Serowe Hospital, and subsequently transferred to Lobatsi Hospital on 1st December, 1931.

Miss M. G. Gutridge appointed Staff Nurse on 1st July, 1931, and posted to Lobatsi Hospital.

Miss E. F. Cannon appointed Staff Nurse on 1st July, 1931, and posted to Serowe Hospital.

Miss K. W. Armstrong appointed Staff Nurse on 16th August, 1931, and resigned on 30th November, 1931.

Dispenser T. E. Booker, transferred from Molepolole to Serowe on 20th April, 1931.

Dispenser A. Boyle, Ghanzi, retired on 31st May, 1931.

Postings of Staff on 31st December, 1931.

Mafeking:

Principal Medical Officer, Hamilton W. Dyke, M.B.,
1 Clerk.
1 Native Medical Orderly.

Francistown:

Medical Officer, Desmond Drew, B.A., M.B., Ch.B.
1 European Dispenser, H.F. Bennett.
1 Native Pupil Dispenser.

Serowe:

Medical Officer, Austin Morgan, B.A., M.B., B.Ch., B.A.O.
Sister in Charge of Hospital, Miss C.H. Mitchell
1 Staff Nurse, Miss E.F. Cannon.
1 European Dispenser, T. E. Booker.
1 Native Medical Orderly,
2 Native Male Nursing Orderlies,
2 Native Female Nurses, probationers.

Gaberones:

Medical Officer, Gerard M. Malan, M.B., Ch.B.,
1 Native Medical Orderly.

Lobatsi:

Medical Officer, D.J.D. Henderson, M.B., Ch.B., F.R.C.S.E.
Sister in Charge of Hospital, Miss E.M. Verney.
3 Staff Nurses, Miss O.M. Weiss, Miss M.G. Gutridge,
Miss S.M. Harrison.
1 Native Dispenser.
2 Native Male Nursing Orderlies.
3 Native Female Nurses, probationers.

Ngamiland:

Medical Officer, Alexander Skinner, M.B., Ch.B.
1 Native Medical Orderly.
Relieving Medical Officer, M. Gerber, M.A., M.D.

Tuli Block:

Vacant.

Mochudi:

Temporarily vacant.

Ghanzi:

European Dispenser withdrawn.

Molepolole:

European Dispenser withdrawn when the London
Missionary Society established there Dr. P.M. Shepherd,
M.B., Ch.B. (Gl.), D.T.M.

In the Annual Report for 1930 attention was drawn
to the need for additional Medical Staff, but again the
financial position has precluded any idea of this.
Indeed, as will be seen above, it was found necessary to

curtail certain activities. The Medical Officer at Tuli Block had to be withdrawn and sent on relief duty to enable members of the Medical Staff to obtain the leave which they had earned and which in this climate is essential. The withdrawal of the Doctor from the Tuli Block is very unfortunate as the Medical Officer was in close contact with a native population of over 10,000 whose nearest doctor is at Serowe - a distance of 90 miles, and to some 130 miles.

The post of European Dispenser at Ghanzi was abolished and it was arranged that the Medical Officer, Ngamiland, should visit that station thrice yearly. Meanwhile the Resident Magistrate, Ghanzi, who is supplied with stock mixtures and dressings, assists as far as he can in treating minor ailments. The arrangement has, so far, worked smoothly, though the inhabitants of Ghanzi, who are 200 miles from the nearest Doctor, from time to time ask that a doctor be stationed there.

The Bakgatla Tribe were without a doctor from 1st May until the end of the year, as Dr. Malan, the Medical Missionary at Mochudi, subsidised by Government, resigned from the work; and as the Mission were unable to secure some one to take his place, the Medical Officer, Gaberones, has conducted a regular fortnightly Dispensary at Mochudi.

The London Missionary Society in March stationed a Medical Missionary (Dr. P. M. Shepherd) at Molepolole. This enabled the Administration to withdraw the European Dispenser from Molepolole and to post him to Serowe where the Medical Officer was single-handed in his efforts to supply the medical needs of the Mangwato Tribe which has a population of over 70,000 scattered over

an area of 39,000 square miles.

A certain amount of difficulty was experienced in retaining for lengthy periods the services of European Nurses. This is due to the monotony of the life at Stations in the Protectorate where the opportunities for amusement in off-duty hours are few; but gradually a staff is being collected who will be content with the conditions that obtain in the Territory.

In the Annual Report for 1930 the desirability was suggested of having itinerant Medical Officers equipped with travelling dispensaries for visiting remote areas of the Protectorate where the population is widely scattered, but lack of funds prevents, for the present, the carrying out of such a scheme. That there is a need for such a project was confirmed by the personal observations of the Resident Commissioner and the Principal Medical Officer who, in February, undertook by motor car a tour of over 700 miles through the Southern Kalahari which is inhabited by Bakgalahadi, bastard Hottentots and off-shoots of other Tribes scattered in small hamlets at waterholes 15 to 60 miles or so apart. Many of these underfed, disease-ridden people showed a widespread Syphilitic infection, and had never before seen a European doctor. Such remedies as were carried in case of emergencies were distributed and subsequently the Police Officer and the European Sergeant were furnished periodically with supplies of Anti-Syphilitic remedies which they distributed throughout the year to those people who were obviously Syphilitics. The results obtained were very encouraging. One man who had been bedridden for 18 months with a Syphilitic Arthritis of the hip was able partially to resume his

ordinary vocation of life after a month's treatment. The foregoing is an illustration of what itinerant doctors could accomplish among the remote inhabitants of the Territory, who are totally unable to obtain medical aid from stations where medical men are posted.

The European and Native personnel of the Rhodesian Railways operating on the section Mafeking to Bulawayo are attended by the Medical Staff of the Protectorate, the whole section being visited weekly by Medical Officers of the respective subsections, the journey being accomplished in a Railway Coach fitted as a Dispensary. In this way all Railway employees at remote sidings and gangers' cottages have ample opportunity for advice and treatment and it affords Medical Officers an opportunity of keeping in touch with certain distant portions of their districts with little loss of time, as each Medical Officer is very seldom away from his station for more than 24 hours at a stretch.

- (b) List of Ordinances affecting Public Health during the year - Nil.
- (c) Financial - in respect of financial year ending 31st March, 1931.

Revenue:

Hospital and Dispensary Fees	£448.
Being an increase on Revenue for 1929-30 of	£268.
Revenue for calendar year 1931 approximately	£650.
Being an increase on that of 1930 of approximately	£350.

Expenditure :

Personal Emoluments	£7,664.
Other Charges	4,507
	£12,171
Total Revenue of Protectorate for 1930 - 1931	£149,565
Total Expenditure of Protectorate for 1930 - 31	£154,840
Relation of Medical Expenditure to Total Expenditure	7.86

SECTION 11 - PUBLIC HEALTH.

Throughout the year the Territory has been comparatively free of endemic or epidemic diseases. The Malarial incidence as in 1930 was at a lower level than in 1928 and 1929. Only one small outbreak of modified Small Pox was dealt with. Epidemics of Whooping Cough occurred at Molepolole and Maun.

Attention was drawn in the Annual Report for 1930 to the infrequency with which epidemics cross the Protectorate borders either from or to the neighbouring States. This year has proved no exception to the rule, the only epidemic introduced from without being a small outbreak of Alastrim which, as far as could be ascertained, came across from the Caprivi Strip.

Under this Section the general diseases that require comment are :

Scurvy: 140 definite cases are reported. This is twice as many as were notified in 1930, and though the number of cases which present themselves to the Dispensaries is not great, yet it is an indication that malnutrition is a constant menace and adverse factor among the Bechuana. Some of the more serious cases occurred in natives working for Europeans, but living

in their homes under more or less civilized conditions. Others again occurred among native railroad gangs who had to supply their own food. One gang in particular showed a Scurvy incidence of 50%. The supply of two oranges per man per diem very quickly cured the condition. In all these cases it was ascertained that their diet consisted almost entirely of maize meal porridge with occasionally wheat meal bread, but for months their diet contained no anti-scorbutic properties.

There is a definite seasonal incidence for Scurvy, most of the cases occurring in the early Summer - especially in the years when there have been scanty or no early Summer rains, because it is only after good rains that the natives obtain green foodstuffs in the form of green maize, peas, beans, water melons and pumpkins, and certain wild vegetables and berries, and - in a few cases - fruit such as peaches; but they almost never attempt to produce vegetables which would tide them through the Winter and Spring, nor do they grow winter bearing fruit trees such as oranges, pawpaws, etc. which do very well in all parts of the Territory, provided a certain amount of watering can be done. This neglect is due partly to indifference or apathy on the part of the whole native population, partly to the unfortunate custom of living in large villages or townships under the immediate autocracy of the tribal Chief, but principally to the lack of surface water supplies which are essential if growing of vegetables is attempted. The Inspector of Education is endeavouring to establish garden plots at certain of the native day schools with the object of teaching the children how to grow vegetables. So far the results achieved are

small, but at two or three schools where the teachers show energy and keenness the products are good. One recognises that it is mostly through the Schools that the coming generation will be influenced to realise the necessity for adapting themselves to the conditions of life which are changing year by year and for which they must make provision. But until the mass of the people realise the need for supplementing their present diet with antiscorbutic elements so long will malnutrition and Scurvy exist.

Diseases of the Respiratory System. There were 2,586 attendances for conditions of the air passages and respiratory organs; but not including Tuberculosis of the lungs, which is dealt with under a separate paragraph. The above number is almost the same as for 1930 (2,721 cases) though there is a marked diminution in the number of cases of Pneumonia and Broncho Pneumonia. In 1930 there were 181 cases and in 1931 there were 93 cases, the reason for this reduction undoubtedly being due to the corresponding lowered incidence of Influenza of which 762 cases were reported in 1930 as against 439 cases in 1931.

Diarrhoea and Enteritis: accounted for 365 cases, being 1.2% of all attendances. There is little doubt that this figure is not a true indication of the real incidence throughout the country as only a very small proportion of the cases of infantile diarrhoea are brought for treatment because of the great distances so many have to travel, and because of the inherent faith the Bechuana still have in their native doctors and herbalists.

Syphilis. As in former years Syphilis is responsible

for a large proportion of patients attending the Dispensaries. 7,189 Individual cases presented themselves for treatment, being 31.62% of the total first attendances. This is less than there were in 1930, the number that year being 11,332. From this diminution it cannot be inferred that there are actually fewer cases of Syphilis in the country or that the disease has been mastered to that extent. The decrease in numbers is probably accounted for by the following factors:

(1) A somewhat smaller number of total attendances, explained later in this report; (2) Those sufferers living in close proximity to the Medical Officers, having had a course of treatment, no longer present superficial manifestations, and so discontinue treatment; while those living at long distances find it difficult to reach the dispensaries; (3) The objection to pain caused by injections of Bismuth Sodium Tartarate which was being used because of its being less expensive than the Arsenical preparations.

It has not been possible to make a survey to ascertain the actual incidence of Syphilis; most Medical men working in the country estimate that it affects 75% of the population.

As in last year's report it is interesting to note how rare are cases of Neuro-Syphilis. There was not one case of either Locomotor Ataxia or General Paralysis of the Insane. It is possible that among the 10 cases diagnosed as "other Paralysis" or "Meningitis" some of them may have been of Syphilitic origin, but even that would represent a very low rate of Neuro Syphilis, as these 10 cases represent only .04% of total attendances. One distressing feature of the late manifestations is

the number of Arthritic deformities produced by congenital syphilis in children. Some of these children were admitted to Hospital and treated by medicinal postural and massage methods with wonderful improvement, but most of them had developed such marked contractions of long standing and disease atrophies that nothing short of extensive plastic operations and the subsequent application of expensive apparatus would effect a possible complete cure. Another feature of interest in hereditary Syphilis among the natives is the rarity of the classical "Hutchinson teeth" and Syphilitic Keratitis. It is only during the last year that medical inspection of native schools has been undertaken, and it is hoped that data obtained at such inspections during the next year or two will show to what extent congenital Syphilis is affecting the growing generation.

Yaws. Under this heading 117 cases were reported as compared with 27 cases in 1930. Owing to the similarity of the lesions of Syphilis and Yaws, which, to the inexperienced Medical Officers presents difficulties in differential diagnosis, it is certain that many cases of Yaws have been, and are still being, diagnosed as Syphilis; but during the last two years some of the cases have been so typically Yaws that a considerable amount of attention has been given to try and arrive at some conclusion. There can be no doubt that Yaws has existed in Bechuana-land for some time, particularly in the Southern Protectorate, and as the Doctors working in the Territory become more familiar with the appearance, so will there be an increasing number of cases of Yaws reported, though this increase will vary with the view of individual Medical Officers because even among very experienced

observers a certain proportion maintain that Syphilis and Yaws are one and the same disease but with different appearances. Should it be conclusively proved that Yaws is a definite entity then the question would arise as to whether this disease has been overlooked in the past or whether it is of recent introduction.

Gonorrhoea accounted for 232 cases, being 1% of total attendances. Medical Officers consider this a very incorrect guide as to the incidence. Sufferers only seek medical attention for the more severe manifestations or complications. Be that as it may, the fact remains that Gonorrhoea is not so frequent among the Bechuana as among certain other South African native tribes.

Tuberculosis. 205 Cases of Tuberculosis were reported being .9% of total new attendances as compared with 165 cases in 1930, 22 cases in 1929 and 37 cases in 1928. Though some allowance must be made for the great increase indicated by these figures, yet they are sufficiently reliable to show that Tuberculosis is definitely spreading and may prove a serious menace to the population, particularly in view of the wide-spread malnutrition throughout the country, which will be dealt with in a separate section.

Smallpox and Alastrim. No cases of Variola Major occurred during the period under review, but at Kachikau on the Chobe River, 120 miles South west of Livingstone, there was one outbreak of Alastrim in May and June. 16 Natives were affected, with 4 deaths. The Medical Officer from Maun was detailed to take charge and by prompt measures of isolation and vaccination it was quickly localised and completely smothered. Over 2,000 native contacts were vaccinated.

Cerebro-Spinal Meningitis. No cases of Cerebro-Spinal Meningitis were reported.

Influenza. 439 Cases were attended, but in no district did Influenza assume an epidemic form.

Enteric Group. Throughout the year not a single case was observed. This almost complete freedom for years back has been the subject of comment in previous Annual Reports. It is not that it is overlooked because on occasions when Medical Officers have suspected its presence a Widal Test has been made which in each case gave a negative result and was subsequently confirmed by the correct diagnosis of the particular fever -

Tuberculosis, Malaria, etc. It is worthy of note that although this group of fevers occurs in all the adjoining States and isolated cases of Enteric Fever have from time to time occurred in individuals who have contracted the disease outside the Territory, and developed it when they reached their homes in the Protectorate - yet there has been no spread, and this is specially remarkable in-as-much as native villages or townships in the Protectorate, with populations up to 25,000, have no sanitation whatever. Excreta are deposited anywhere and everywhere between the habitations of the villages; no form of water sterilization is resorted to and flies are abundant. Natives in other parts of South Africa have no natural immunity, nor has there been any attempt to immunize the Bechuana by vaccination. One therefore concludes that this past and present freedom from the Enteric Group is more a matter of good luck than good guidance; and it is conceivable that should a few cases with a sufficient degree of virulence occur in any of these large villages, a formidable outbreak is very likely to occur.

Malaria. The incidence for 1931 has again been low, being 5.7% of total individual new attendances as compared with 4.73% in 1930 and 11.53% in 1929. This low Malarial rate for 1930 and 1931 is undoubtedly due to the rainfall having been unevenly distributed throughout the rainy season all over the Territory. The rains fell heavily for one or two days, followed by long spells of bright sunshine, so that pools and puddles where the Anopheles normally breed dried up before the larvae matured. Comparative records of rainfall and Malaria occurrence from which reliable deductions could have been made have not been kept over a sufficient number of years to be of any value; but there is little doubt that when we are in a position to do so we will find that in this Territory, as in neighbouring parts of South Africa, Malaria occurs in epidemic form in cycles of 5 or 6 years, corresponding with the years when the rainfall is evenly distributed throughout the rainy season. Among European Government and Railway Officials and their families mosquito proofing of the quarters and the free issue of prophylactic quinine are the chief forms of defence. On Stations where Malaria is endemic the native Government employees are made to take a daily quinine ration, and to the rest of the population quinine is supplied at the whole-sale price that it costs Government. In certain districts where Malaria is prevalent natives are increasingly taking advantage of these facilities for obtaining prophylactic quinine at a small cost. The Medical Officer reports that some natives in Ngamiland have even taken to sleeping under mosquito nets.

Blackwater Fever. Only two cases came under observation,

(Ftn. 7.28%
 Gab. 16.8%
 Ser. 7.%
 Ma 8.8%
 Lob. 1.2%
 Kan. 0%)

one of them an European child who died, and the other a native man who recovered. Both cases occurred in Ngamiland.

Plague. No cases have occurred within the Protectorate or within many miles of its borders. For two years prior to 1931 Rodent Inspectors were maintained to patrol the South eastern area where it was thought an outbreak might possibly occur, but as no cases of rodent infection were observed during that period, it was considered that for reasons of economy these Inspectors could be dispensed with.

Helmenthic Diseases. Intestinal Parasites, including Cestoda (Taenia) Ascaris and Oxyuris accounted for 62 attendances. No case of Ankylostomiasis was reported. Bilharzia. 5 Cases were reported in 1931 as against 6 in 1930 and 25 in 1929. Of the 5 cases, 3 occurred in the Lobatsi District and 2 in the Gaberones District.

Vital Statistics.

Owing to the huge area of the Territory over which the population is scattered - in many cases 200 miles and more from the nearest European Government Official - it has been found impossible to demand registrations of birth and deaths. In the case of Europeans only notices of death are required to be supplied by the householder in whose domicile the death occurred; and as many of the deaths occurred in parts so remote that no doctor had been in attendance, certificates indicating the cause of death were not demanded. According to the European death notices returned in 1931 there were 18 deaths in an estimated European population of 1,800. (The last census in 1921 gave the European population as 1,743). This represents a death rate of 10 per 1,000, the actual

number of deaths in each age decade being :- over 60 years - 4; 50 to 60 years - 3; 40 to 50 years 4; 30 to 40 years - 2; 10 to 20 years - 2; 1 to 10 years - 1; below 1 year - 2. Causes of death are not sufficiently reliable to record.

SECTION III.- HYGIENE AND SANITATION.

Hygiene. At all the Schools, European and Native, simple lessons in Hygiene now form part of the regular School Syllabus. In order to guide the native teachers how to present this subject in a way that can be applied to the daily life of the Mochuana in his present stage of development, the Medical Department has in hand the preparation of a simple text book in Sechuana for use in the day schools. This text book will be ready for use during the course of the next few months. During the past year medical inspections of school children have been commenced - a preliminary to a fuller and more systematic scheme - though the thoroughness and extent to which this can be developed must be greatly limited by the fact that in each district there is only one Medical Officer who, single-handed, has to supply all the medical needs of Government employees, prisoners, etc., and those of the whole native population for many miles around, both at the Government Dispensary and at their houses. He has to perform the medico-legal work of the District and where there are Government Hospitals he is responsible for the administration of these and the treatment of the patients therein. The data obtained up to now from the school examinations are still very scrappy, but will in time afford most valuable information as to physique, nutrition, malarial incidence, etc. Already the

one outstanding feature of these school examinations is the poor nutrition of the younger children and the resultant poor physique of the older ones. In the Annual Report for 1930 emphasis was laid on the poor physique of the Bechuana generally, and as the future of a country depends on the people inhabiting that country, one ventures to stress the urgent need for increased activity in trying to improve the physical standard of all the tribes in the Protectorate. In a previous passage attention was called to the spread of tuberculosis as shown by the ever increasing number of outpatients who present themselves at the Dispensaries with tubercular manifestations. This, no doubt, may to a certain extent, be correctly attributed to the recognised relative lack of immunity to this particular disease inherent among native races generally. However, there can be no question but that badly balanced diets and poor physique, complicated by widespread infection with Syphilis and Malaria, play a very important part in making the Bechuana specially prone to tubercular infection. That this question of bad nutrition and poor physique is not confined to the observations of the Medical Department alone is shown by the following remarks to this Department from the Inspector of Education:

"Amongst the major problems which have to be solved is the grave one of retardation, which was observed during my first round of inspection of Native Schools, which took place early in 1929.

"Probing deeply and thoroughly has brought to the surface the fact that many of these children are in actuality several years older than their general appearance would lead one to believe and possibly,

being in a lower class than their true age warrants, they are being fed on a mental pabulum unsuitable for their actual age period. The child of six years needs food differing from that given to the child of two years, and so also in the School the child of 11 years needs a different mental fare from that given to the child of 8. Also the requirements prescribed for each class are based partly on the presumption that most of the children in any one class or Standard will be of an average age. For example, Standard 1 work is designed for children whose ages will be from 8 to 9 years, or thereabouts. It is not intended for pupils of 13 years of age, whom it would quickly bore. From my observations as a layman I have come to the conclusion that the majority of the children attending our schools are under-nourished, that their physical development is vastly inferior to that of other South African native tribes amongst whom I have done educational work for the past 25 years. Many of them come to school in a half starved and emaciated condition which precludes most of them from obtaining even average benefit from the content of the scheme of teaching which has been of recent years advisedly applied to the curriculum of native schools in the Bechuanaland Protectorate. Unless prompt measures can be introduced with a view to ameliorating the present physical disability the educational fabric is being built on a deplorable foundation. The writer believes that what is urgently required before the Protectorate Native Schools can be placed on a curriculum and course of study really suiting their needs is that there should be by our medical service a thorough enquiry and investigation into the cause of the

malnutrition and physical deterioration with a view to effecting such medical measures as can be applied in the Territory. And further to explore how far our two departments can co-operate as regards the most suitable scope and content of educational curriculum, to make such changes amongst the Bechuanaland Protectorate natives as will enable them to meet more adequately the present and future needs of their environment. Until that is carried out there is no real basis on which to build and develop our school work".

I submit that from the aspect of hygiene and development of the Bechuana people it is necessary to take stock and consider whether the methods of indirect rule and education, as they have been applied to this Territory, have served to equip the individuals of the various tribes with the process of development necessary to meet the changes that have taken place, and are likely to take place, so far as one can envisage them, in their conditions of life due to the ever-increasing contact with European civilization and the altered economic resources of the country, all of which have a distinct bearing on their health. Generally the policy of the Administration has been to protect the Bechuana from being interfered with and exploited by European and foreign native elements, to protect them within the boundaries of the Territory from inter-tribal conflicts, to assist them in the suppression of stock disease, to suppress serious crime among themselves, to give them certain medical benefits, and to educate them in the 'three R.s'; but, on the other hand, not to interfere with the power of the Chiefs, nor with the mode of life under which the people lived when His Majesty's Government first took

over protection of the country. While it cannot be denied that such a policy enables the protecting Administration to carry out its functions with a minimum of Staff and expenditure, it allows the tribal Chief to interfere unduly with the development and progress of the individual. As illustrations - (a) Whether an individual wishes to or not, he is required to live in the immediate neighbourhood of the tribal Chief in the large unsanitary native townships that are so characteristic of Bechuanaland, the agricultural fields and cattle posts being many miles away under the care of the Masarwa or Bakgalahadi servants, thus depriving the average Mochuana of garden products and - especially the children - of milk. (b) In certain tribes the chief does not permit any of his people to plough their lands or reap their crops until they have performed this work on the Chief's lands. This, as can well be appreciated, means that no matter how propitious the conditions may be for the individual to plough or reap, he dare not do so until his Chief has given authority, and thus he often misses golden opportunities of acquiring food. It is hard to conceive a more discouraging state of servility and one which necessarily must re-act adversely on the moral, mental and physical development of the individual.

When the present system of education is explored in relation to its effect on developing the Bechuana physically, mentally and generally, one is confronted with the very disappointing results achieved, as reflected in their ideas and habits of diet, sanitation and general wellbeing. While not deprecating the value of teaching the growing generation to read and write and to present themselves in the school room in a more or less

clean and tidy condition, can it be conscientiously stated that this teaching has produced tangible results in equipping them to resist diseases such as Tuberculosis, which has been commented upon in previous paragraphs? That it is necessary to revise our methods of developing the native with a view to hygienic and physical improvement, one need simply compare the results obtained in other countries through the means of the Jeanes teachers where they have been employed, and which the Education Department has not lost sight of in-as-much as two natives are being trained at Jeanes Schools in Southern Rhodesia. Under this system of education the 'three R.s' fall into line on a much broader basis in which village sanitation, home hygiene, raising of vegetables, organised recreation, etc., each play their part with the village school as the focus from which these different rays of activity get their inspiration, thus linking up the home life with the school life. For it must not be overlooked that so often a native child at school is told what he or she should do as regards health in the home, dietetics, sanitation, etc., but owing to the conservative and reactionary ideas of the average native householder it is impossible for the child to apply in practice the things he has been taught at school - indeed his school education is to a great extent exotic. An excellent native female teacher who has a remarkably efficient company of Wayfarers (Native Girl Guides) recently remarked that the parents of the children were her main stumbling block in that they deliberately countered the children when the latter tried to apply the training they were given in the Wayfarer Company.

The need for helping the Bechuana to a better standard

of living is a matter for serious consideration and urgent execution. From all Medical Officers reports are received to the effect that malnutrition is widespread throughout all the tribes and is handicapping the population in every direction. Lectures and health propaganda in schools and villages may help to improve matters, but until something more practical is done, the much-needed amelioration is going to be very, very slow in materialising, and in the meantime physical deterioration and diseases will continue to keep the tribes at their present low level. The Mochuana generally is well endowed with brains and, given favourable circumstances, has proved himself able to adapt himself to altered conditions. And I submit that greater opportunity and encouragement should be given for the individual to develop into a healthy, virile entity, able to take advantage of the many natural resources that exist in the Protectorate. This would necessitate :

- (1) The dissolution of the present large villages;
- (2) The establishment of scattered hamlets and the giving of facilities for water supplies by means of dams, wells or boreholes;
- (3) The training of Jeanes teachers and agricultural demonstrators within our Territory (where physio-geographical conditions differ greatly from those of any other part of South Africa) and the wide diffusion of these teachers among the various tribes;
- (4) Expansion of Medical services.

At the Native Advisory Council in April, 1931, the Resident Commissioner and the Principal Medical Officer advised the tribal Chiefs and Headmen on the

necessity for dissolving the present large native villages. The idea was new to them. One or two of the more progressive Chiefs and Headmen fully supported the proposal, but from the main body of the assembly there was distinct opposition, as it would be breaking down a long established custom of the Bechuana Chiefs. Nevertheless, a very interesting discussion resulted and from remarks heard subsequently it has given food for thought throughout the country.

The unhygienic condition of the inhabitants of the native township of Serowe has been greatly ameliorated by the introduction of a tribal water supply in the middle of the village. This was done by Government with Tribal funds. It enables 600 and more families to obtain good water for domestic purposes from a reservoir, into which the water is pumped from a borehole.

Sanitation. Owing to lack of the necessary funds no development has been possible either in respect of European communities or native towns and villages. In the former the bucket system is generally in vogue, while the native continues to use the shelter of neighbouring depressions, dongas and shrubs - and that in the midst of their villages. Mercifully the strong action of the daily sunshine quickly renders most of the pollution innocuous, and the tropical Summer rains annually complete the cleansing. But prior to the first rains, conditions in the native townships are far from desirable. Much patient education and stimulation is necessary to bring the Chiefs and people to a sense of responsibility in such matters and the process must necessarily be slow.

When dealing with the native races of this Territory, it must not be forgotten that up till less

than a century ago they were primitive savages and that contact with European ideas and civilisation has caused upheavals in their outlook on life. In their present stage of development and thought they are confused and uncertain as to how much of their old customs they should hold on to and how much of the new they should adopt, and it would be a mistake to try and rush them ahead in matters of sanitation and hygiene which, to us, seem so necessary. However, it is encouraging to see the interest and strong desire for help in matters of health that is being shown by most of the Chiefs and certain of their Headmen, and one feels that if this wave of interest and desire for better conditions in matters that really count can be quietly urged on and carefully directed, the result aimed at will be achieved. This desire, on the part of certain Chiefs, for assistance in improving the living conditions of their people has been specially noticeable during the last few months. The tone of the speakers at a very recent meeting of the Native Advisory Council on the subject of health was very different from that of a year ago and showed that much thought had been given to advice offered them then and as a result such resentment as had existed had either melted away or was better controlled.

SECTION IV. - HOSPITALS AND DISPENSARIES.

Dispensaries. These constitute the front line of attack against the diseases of the country. The total attendances were not so great as in 1930 owing to certain definite causes, the chief of which were the closing down of the Tuli Block Dispensary, the removal of the Dispenser from Ghanzi, the absence from Mochudi and Kanye during a great

part of the year of subsidised Medical Missionaries and the absences of the Medical Officer from Maun for several weeks when he was dealing with the outbreak of Smallpox in the Chobe District. Also, because of drought, there was a scarcity of food, and a great many of the inhabitants of certain of the large townships where Medical Officers are stationed, spent the greater part of the year at their cattle posts too remote to visit the Doctors in time of sickness.

It is most unfortunate that for reasons of economy the stations at Tuli Block and Ghanzi have had to be closed down. The average native in his present stage of development measures the value and sympathy of his protector (i.e. the Administration) by the assistance given him in meeting the three following immediate requirements:- Means of gaining money (markets for his cattle), medical aid in time of sickness, and education for his children. If he is helped in these he is satisfied and will accept practically any other measures that Government may see fit to introduce. During the past year the Chiefs and Members of the Native Advisory Council have shown their appreciation of, and confidence in, the efforts that His Honour the Resident Commissioner is making to supply the above mentioned needs, and there is evidence that European doctors are gaining the confidence of the people. Therefore it is little short of a calamity that the Administration at this stage should be obliged to withdraw or reduce the medical services that have been introduced as it will mean losing ground that may take many years to regain.

The total attendances during the year were as follows :-

	<u>First Attendances</u>	<u>Subsequent Attendances</u>	<u>Total Attendances</u>
Francistown	2305	1780	4085
Serowe	2306	1603	3909
Gaberone s	4449	788	5237
Molepolole	4937	812	5749
Lobatsi	2644	1663	4307
Kanye	4326	1000	5326
Maun	1275	2123	3398
Tuli Block	-	-	-
Mafeking	487	800	1287
	<u>22729</u>	<u>10569</u>	<u>33298</u>

Hospitals. During the year under review 579 patients were treated in the Protectorate Hospitals as compared with 207 in 1930; the deaths among inpatients number 27 as compared with 19 in 1930.

The Athlone Hospital at Lobatsi, which was opened in September, 1930, has been full throughout the year. More patients apply for admission than can normally be accommodated. This applies chiefly to native beds, though the European beds also have been functioning to their full capacity and are supplying a want that has existed for years. Until this Hospital came into existence almost all cases requiring hospitalisation went to Institutions in the Union of South Africa or to Bulawayo, which, in the case of indigent patients or members of the Administration, meant considerable expense to Government. Situated as it is on the main railway line, Lobatsi is easily reached from all the inhabited portions of the Territory.

72 Operations were performed of which 24 were on Europeans and 48 on Natives. They included 14 major operations and 58 others. As a result of success in the first few abdominal operations performed, less difficulty is being experienced in getting native patients to consent to major surgery than in the first few months after the Hospital was opened. A great need for isolation accommodation has been experienced; septic and malodorous conditions have had to be nursed alongside other patients. This defect will be remedied in a few months by the erection of two isolation wards, also by shelters for serious Venereal Disease cases, the money for which has been made available by a loan from the Colonial Development Fund.

Progress has been made in the laying out of the Hospital grounds. Citrus and ornamental trees are growing well. A vegetable garden has been started and is proving a great asset.

Sekgoma Memorial Hospital, Serowe. Although the buildings had been completed and furniture, equipment etc., installed by the end of 1929, owing to the lack of an efficient water supply the Hospital did not commence to admit patients until the beginning of March, 1931. Since then it has filled a useful purpose among the Bamangwato Tribe, and such prejudice as existed in the mind of the native against hospitalisation is gradually giving way. 148 Patients were admitted during the 10 months that it functioned; 26 operations were performed, mostly under local anaesthesia.

At both Government Hospitals great credit is due to the European Nursing Staff for the way they carried on in the first few months the nursing of the patients

with completely untrained native nurses. This difficulty is gradually being overcome by the training of probationer native nurses, male and female - two of each sex at each institution. Suitable candidates were chosen who had been educated and could converse in, read and write English. During the first 9 months of their training they were taught simple practical ward duties, the elements of cleanliness and asepsis, and a sense of responsibility to their patients. More recently this practical training has been supplemented by simple theoretical lectures which include elementary anatomy and physiology, the intention being to make the practical the dominant feature of the course and the theoretical the adjuvant. While this may appear contrary to the training of European Nurses, it must be remembered that generally the native has a retentive memory and does not experience great difficulty in book learning, which to them is the essential but so often proves to be a deterrent rather than an aid to the main object of education. It is hoped that after a three or four years' practical training, supplemented by sufficient theory to make them take an intelligent interest in their work, these nurses will be capable of doing useful work in their villages. This subject of the training of South African native nurses is one that requires careful thought and investigation and only experience will show whether the best results are obtained by giving a training identical to that of Europeans or whether it is better to modify it so as to meet the requirements of the native in his present stage of development.

Official visits were paid to both Government Hospitals by His Excellency, the High Commissioner and Lady Stanley.

They graciously expressed their satisfaction at the way in which the Institutions were conducted.

SECTION V. - PRISONS AND ASYLUMS.

Improvements in the accommodation of prisoners have been effected at certain of the Stations, particularly at Serowe where additional cells were built and increased ventilation was provided in the old cells.

In all native goals one of the greatest difficulties encountered is infestation by the ordinary bed bug. No matter what precautions are taken in the way of bathing new admissions and of supplying them immediately they are admitted with clean prisoner uniforms, bugs make their appearance - which means a continual warfare against this form of vermin. This year considerable success has been obtained by the use of an insecticide prepared by the Shell Oil Company which is distributed in the cells by means of an atomiser spray at intervals of ten days.

The health of prisoners has been good throughout the Territory. Scurvy, the previous 'bete noire' of prisons in the Territory, has been entirely kept down since the prison rations were revised in 1930.

As reported in previous years the Territory is not in a financial position to maintain Mental Institutions. Lunatics who are dangerous to the public or to themselves are sent for treatment to Mental Hospitals in the Union; the remainder who are harmless imbeciles are cared for by their relatives at home.

H. W. DYKE.

Principal Medical Officer.

A P P E N D I X I.

OUTPATIENTS FOR THE YEAR 1931.

DISPENSARIES.

Diseases by Systems or Groups.	Nos.	Principal Diseases.	Nos.
I. Epidemic, Endemic and Infectious Diseases.	10,024	5. Malaria -	
		(a) Unclassified . . .	1,286
		(d) Cachexia . . .	20
		(e) Blackwater . . .	2
		6. Smallpox -	
		Alastrim . . .	16
		7. Measles . . .	21
		8. Scarlet Fever . . .	4
		9. Whooping Cough . . .	401
		10. Diphtheria . . .	3
		11. Influenza . . .	439
		13. Mumps . . .	3
		16. Undefined Dysentery . . .	65
		20. Leprosy . . .	4
		21. Erysipelas . . .	1
		25. Other Epidemic Diseases -	
		(b) Varicella (Chicken-pox)	3
		(g) Yaws . . .	117
		29. Tetanus . . .	1
		31. Tuberculosis, Pulmonary and Laryngeal . . .	157
		34. Tuberculosis of the Vertebral Column . . .	9
		35. Tuberculosis of Bones and Joints . . .	35
		36. Tuberculosis of other organs	4
		38. Syphilis -	
		(a) Primary . . .	15
		(b) Secondary . . .	1943
		(c) Tertiary . . .	4541
		(d) Hereditary . . .	632
		(e) Period not indicated	58
		40. A. Gonorrhoea and its complications . . .	232
		B. Gonorrhoeal Ophthalmia.	3
		41. Septicaemia - . . .	8
		42. Other Infectious Diseases -	
		Tick Bite Fever . . .	1
II. General Diseases not mentioned above.	1,214	43. Cancer or other malignant Tumours of the Buccal Cavity	2
		44. Cancer or other malignant Tumours of the Stomach or Liver . . .	2
		46. Cancer or other malignant Tumours of the Female Genital Organs . . .	1
		47. Cancer or other malignant Tumours of the Breast . . .	2
		48. Cancer or other malignant Tumours of the Skin . . .	2
		49. Cancer or other malignant Tumours of organs not specified	4
		50. Tumours, non-malignant . . .	24
		51. Acute Rheumatism . . .	29
		52. Chronic Rheumatism . . .	816
Carried forward . . .	11,238		10,906

Diseases by Systems or Groups.	Nos.	Principal Diseases.	Nos.
Brought forward . . .	11,238		10,906
II. General Diseases not mentioned above (Contd.)		53. Scurvy (including Barlow's Disease)	140
		56. Rickets	5
		57. Diabetes (not including Insipidus)	1
		58. Anaemia -	
		(a) Pernicious	34
		(b) Other Anaemias and Chlorosis	53
		60. Diseases of the Thyroid Gland .	5
		66. Alcoholism	3
		67. Poisoning by mineral substances (Lead, Mercury, etc.) . . .	3
		69. Other General Diseases -	
		Purpura Haemorrhagica . . .	4
		Headaches (undefined) . . .	84
III. Affections of the Nervous System and Organs of the Senses.	875	71. Meningitis (not including Tuberculosis Meningitis or Cerebro-Spinal Meningitis .	4
		74. Apoplexy -	
		(a) Haemorrhage	1
		75. Paralysis -	
		(a) Hemiplegia	3
		(b) Other Paralysis	6
		77. Other forms of mental alienation.	13
		78. Epilepsy	17
		80. Infantile Convulsions	5
		81. Chorea	2
		82. A. Hysteria	8
		B. Neuritis	78
		C. Neurasthenia	11
		84. Other affections of the Nervous System, such as Paralysis Agitans	6
		85. Affections of the Organs of Vision	
		(a) Diseases of the Eye . . .	94
		(b) Conjunctivitis	363
		(c) Trachoma	45
		(d) Tumours of the Eye . . .	2
		(e) Other affections of the Eye	64
		86. Affections of the Ear or Mastoid Sinus	153
IV. Affections of the Circulatory System.	597	87. Pericarditis	2
		88. Acute Endocarditis or Myocarditis	8
		90. Other Diseases of the Heart -	
		Mitral (a)	209
		Aortic	217
		Tricuspid	36
		Pulmonary	18
		Myocarditis	35
		92. Embolism or Thrombosis (non- cerebral)	1
		93. Diseases of the Veins -	
		Haemorrhoids	28
		Varicose Veins	8
		Phlebitis	1
Carried forward	12,710		12,676

Diseases by Systems or Groups.	Nos.	Principal Diseases.	Nos.
Brought forward . .	12,710		12,676
IV. Affections of the Circulatory System (Contd.)		94. Diseases of the Lymphatic System -	
		Lymphangitis	3
		Lymphadenitis, Bubo (non-specific)	19
		95. Haemorrhage of undetermined cause	6
		96. Other affections of the Circulatory System	6
V. Affections of the Respiratory System.	2,586	97. Diseases of the Nasal Passages -	
		Rhinitis	18
		Coryza	160
		98. Affections of the Larynx -	
		Larynx	74
		99. Bronchitis -	
		(a) Acute	857
		(b) Chronic	566
		100. Broncho-Pneumonia	40
		101. Pneumonia -	
		(a) Lobar	53
		(b) Unclassified	
		102. Pleurisy, Empyema	22
		105. Asthma	73
		107. Other affections of the Lungs -	
		Bronchial Catarrh	723
VI. Diseases of the Digestive System.	4,950	108. A. Diseases of the Teeth or Gums -	
		Caries, Pyorrhoea, etc.	1,462
		B. Other affections of the Mouth -	
		Stomatitis	132
		109. Affections of the Pharynx or	
		Tonsils -	
		Tonsillitis	253
		Pharyngitis	72
		111. A. Ulcer of the Stomach	4
		112. Other affections of the Stomach -	
		Gastritis	74
		Dyspepsia, etc. . . .	371
		113. Diarrhoea and Enteritis -	
		Under two years	187
		114. Two years and over	181
		Colitis	5
		116. Diseases due to Intestinal	
		Parasites -	
		(a) Cestoda (Taenia)	62
		117. Appendicitis	8
		118. Hernia	9
		119. Other affections of the Intestines -	
		Constipation	2,096
		124. Other affections of the liver -	
		Abscess	4
		Hepatitis	25
		Cholecystitis	2
		Jaundice	2
		127. Other Affections of the Digestive System	1
Carried forward . .	20,246		20,246

Diseases by Systems or Groups.		Nos.	Principal Diseases.	Nos.
Brought forward . . .		20,246		20,246
VII.	Diseases of the Genito-urinary System (non- Venereal).	596	128. Acute Nephritis	10
			129. Chronic	25
			130. B. Schistosomiasis	5
			131. Other affections of the Kidneys - Pyelitis, etc.	14
			133. Diseases of the Bladder - Cystitis	47
			134. Diseases of the Urethra - Stricture	3
			135. Diseases of the Prostate - Hypertrophy	2
			Prostatitis	1
			136. Diseases (non-Venereal of the Genital Organs of Man - Epididymitis	4
			Orchitis	1
			Hydrocele	1
			Ulcer of Penis	20
			137. Cysts or other non-malignant Tumours of the Ovaries	9
			138. Salpingitis - Abscess of the Pelvis	8
			139. Uterine Tumours (non-Malignant)	12
			140. Uterine Haemorrhage (non-Puerperal)	40
			141. A. Metritis	7
			B. Other Affections of the Female Genital Organs - Displacements of Uterus	37
			Amenorrhoea	49
			Dysmenorrhoea	237
			Leucorrhoea	11
			142. Diseases of the Breast (non- Puerperal) - Mastitis	4
			Abscess of Breast	1
VIII.	Puerperal State.	101	143. A. Normal Labour	20
			B. Accidents of Pregnancy - (a) Abortion	15
			(b) Ectopic Gestation	1
			(c) Other Accidents of Pregnancy	16
			144. Puerperal Haemorrhage	3
			145. Other Accidents of Parturition	1
			147. Phlegmasis Dolens	1
			148. Puerperal Eclampsia	1
			149. Sequelae of Labour	20
			150. Puerperal Affections of the Breast Ante-Natal Examinations	5 18
IX.	Affections of the Skin and Cellular Tissues.	500	151. Gangrene	1
			152. Boil - Carbuncle	26 15
			153. Abscess - Whitlow	50 15
			Cellulitis	21
			154. A. Tinea	20
			B. Scabies	19
Carried forward . . .		21,443		21,110

Diseases by Systems or Groups.		Nos.	Principal Diseases.	Nos.
Brought forward		21,443		21,110
IX.	Affections of the Skin and Cellular Tissues (Contd.)		155. Other Diseases of the Skin -	
			Urticaria	132
			Eczema	175
			Herpes	11
			Psoriasis	1
			Ulcers (velde sores)	14
X.	Diseases of Bones and Organs of Locomotion (other than Tuberculous)	75	156. Diseases of Bones -	
			Osteitis	3
			157. Diseases of Joints -	
			Arthritis	25
			Synovitis	43
			158. Other Diseases of Bones or Organs of Locomotion.	4
XI.	Malformations.	1	159. Malformations -	
			Hydrocephalus	1
XII.	Diseases of Infancy	10	160. Congenital Debility	3
			161. Premature Birth	1
			162. Other Affections of Infancy	6
XIII.	Affections of old age.	12	164. Senility -	
			Senile Dementia	12
XIV.	Affections produced by external causes.	844	176. Attacks of poisonous animals -	
			Snake bite	6
			Insect Bite	18
			177. Other Accidental Poisonings	10
			178. Burns (by fire)	46
			179. Burns (other than by fire)	14
			183. Wounds (by firearms, war excepted)	7
			184. Wounds (by cutting or stabbing instruments)	433
			185. Wounds (by fall)	6
			186. Wounds (in Mines or Quarries)	2
			187. Wounds (by Machinery)	3
			188. Wounds (by crushing e.g. Rail- way accidents, etc.)	14
			189. Injuries inflicted by animals, (Bites, kicks, etc.)	81
			198. Murder by cutting or stabbing instruments	1
			199. Murder by other means	4
			200. Infanticide (Murder of an infant under one year)	1
			201. Dislocation A.	5
			Sprain B.	105
			Fracture C.	19
			202. Other external Injuries	69
XV.	Ill-defined Diseases	283	205. A. Diseases not already specified or ill-defined -	
			Ascitis	4
			Oedema	9
			Asthenia	262
			B. Malingering	8
XVI.	Diseases, the total of which have not caused 10 deaths.	61		
				61
		22,729	Total first attendances :-	22,729
			Total subsequent " :-	10,569
			34 .	33,298

A P P E N D I X II.

Return of Diseases and Deaths - In Patients - for the year 1930.

Diseases.	Remaining in Hospital 1931.	Yearly Total.		Total Cases Treated	Remaining in Hospital 1932.
		Admissions.	Deaths.		
1. EPIDEMIC, ENDEMIC and INFECTIOUS DISEASES.					
5. Malaria -					
(a) Tertian		8	1	9	
(c) Aestivo-autumnal		9		9	
(d) Cachexia		3		3	
9. Whooping Cough		3		3	
10. Diphtheria		1		1	
11. Influenza		24		24	
16. Dysentery -					
(a) Ameobic		7		7	
23. Encephalitis Lethargica		1	1	1	
25. Other Epidemic Diseases -					
(g) Yaws		3		3	1
29. Tetanus		1	1	1	
91. Tuberculosis, Pulmonary and Laryngeal		23	1	23	2
35. Tuberculosis of Bones and Joints		7	1	7	2
36. Tuberculosis of other Organs -					
(c) Lymphatic System		3		3	3
37. Tuberculosis disseminated -					
(b) Chronic		7	2	7	1
38. Syphilis -					
(a) Primary		1		1	
(b) Secondary	1	2		3	1
(c) Tertiary	2	43		45	3
(d) Hereditary	2	8		10	2
(e) Period not indicated		1		1	
40. A. Gonorrhoea, and its complications. . . .		1		1	
C. Gonorrhoeal Arthritis		7		7	
II. GENERAL DISEASES NOT MENTIONED ABOVE.					
45. Cancer or other Malignant Tumours of the Peritoneum Intestines, Rectum. . . .		2	1	2	
47. Cancer or other malignant tumours of the Breast. . . .		2		2	
48. Cancer or other malignant tumours of the skin. . . .		2		2	
49. Cancer or other malignant tumours of organs not specified. . . .		1		1	
50. Tumours, non-malignant. . . .		4		4	
51. Acute Rheumatism		1		1	
52. Chronic Rheumatism		3		3	
53. Scurvy (including Barlow's disease)		8		8	
Carried forward	5	186	8	191	15

Diseases.	Remaining in Hospital 1931.	Yearly Total.		Total Cases Treated	Remaining in Hospital 1932.
		Admissions.	Deaths.		
Brought forward . . .	5	186	8	191	15
III. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.					
70. Encephalitis (not including Encephalitis (Lethargica) . . .		1		1	
71. Meningitis (not including Tuberculous Meningitis or Cerebro-Spinal Meningitis.		2		2	
74. Apoplexy		1	1	1	
75. Paralysis - (a) Hemiplegia.		1		1	
(b) Other Paralyzes		1		1	
77. Other forms of Mental Alienation.		1		1	
78. Epilepsy		4		4	1
82. A. Hysteria	1	1		2	
B. Neuritis		1		1	
C. Neurasthenia		2		2	
84. Other affections of the Nervous System, such as Paralysis Agitans.		1		1	
85. Affections of the Organs of Vision - (a) Diseases of the Eye		12		12	
(c) Trachoma		4		4	
(e) Other affections of the Eye.		5		5	
IV. AFFECTIONS OF THE CIRCULATORY SYSTEM.					
88. Acute Endocarditis or Myocarditis.		2	1	2	
90. Other Diseases of the Heart - (a) Valvular - Mitral		3		3	
Aortic		1	1	1	
(b) Myocarditis		4		4	1
93. Diseases of the Veins - Phlebitis		1		1	
94. Lymphangitis		4		4	
96. Other Affections of the Circulatory System		2		2	
V. AFFECTIONS OF THE RESPIRATORY SYSTEM.					
98. Affections of the Larynx - Laryngitis		9		9	
99. Bronchitis - (a) Acute		4		4	1
(b) Chronic		2		2	1
Carried forward	6	255	11	261	19

Diseases.	Remaining in Hospital 1931.	Yearly Total		Total Cases Treated	Remaining in Hospital 1932.
		Admissions	Deaths.		
Brought forward . . .	6	255	11	261	19
V. AFFECTIONS OF THE RESPIRATORY SYSTEM (Contd.)					
100. Broncho-Pneumonia . . .	1	12	1	13	3
101. Pneumonia - (a) Lobar . . .	2	17	3	19	
102. Pleurisy, Empyema.		9		9	3
VI. DISEASES OF THE DIGESTIVE SYSTEM.					
108. A. Diseases of Teeth or Gums - Caries, Pyorrhoea etc.		4		4	
109. Affections of the Pharynx or Tonsils		25		25	
112. Other Affections of the Stomach - Gastritis		1		1	
Dyspepsia, etc.		3		3	
113. Diarrhoea and Enteritis - Under two years		4	1	4	
114. Diarrhoea and Enteritis - Two years and over . . .		1		1	
116. Diseases due to Intestinal parasites - (a) Cestoda (Taenia)		3		3	
117. Appendicitis		9		9	
118. Hernia		2		2	
119. B. Other affections of the Intestines - Enteroptosis	1			1	
Constipation		8		8	
124. Other affections of the Liver - Abscess	1	4	1	5	
Hepatitis		2		2	
Jaundice		3		3	
VII. DISEASES OF THE GENITO-URINARY SYSTEM (Non-Venereal).					
128. Acute Nephritis		5		5	2
129. Chronic		1		1	1
130. B. Schistosomiasis		3		3	1
131. Other Affections of the Kidneys - Pyelitis, etc.		1		1	
133. Diseases of the Bladder - Cystitis		2		2	
134. Diseases of the Urethra - (a) Stricture		4	1	4	1
135. Diseases of the Prostate - Hypertrophy		1		1	1
136. Diseases (non-Venereal) of the Genital Organs of Man - Epididymitis		1		1	
Carried forward	11	380	18	391	31

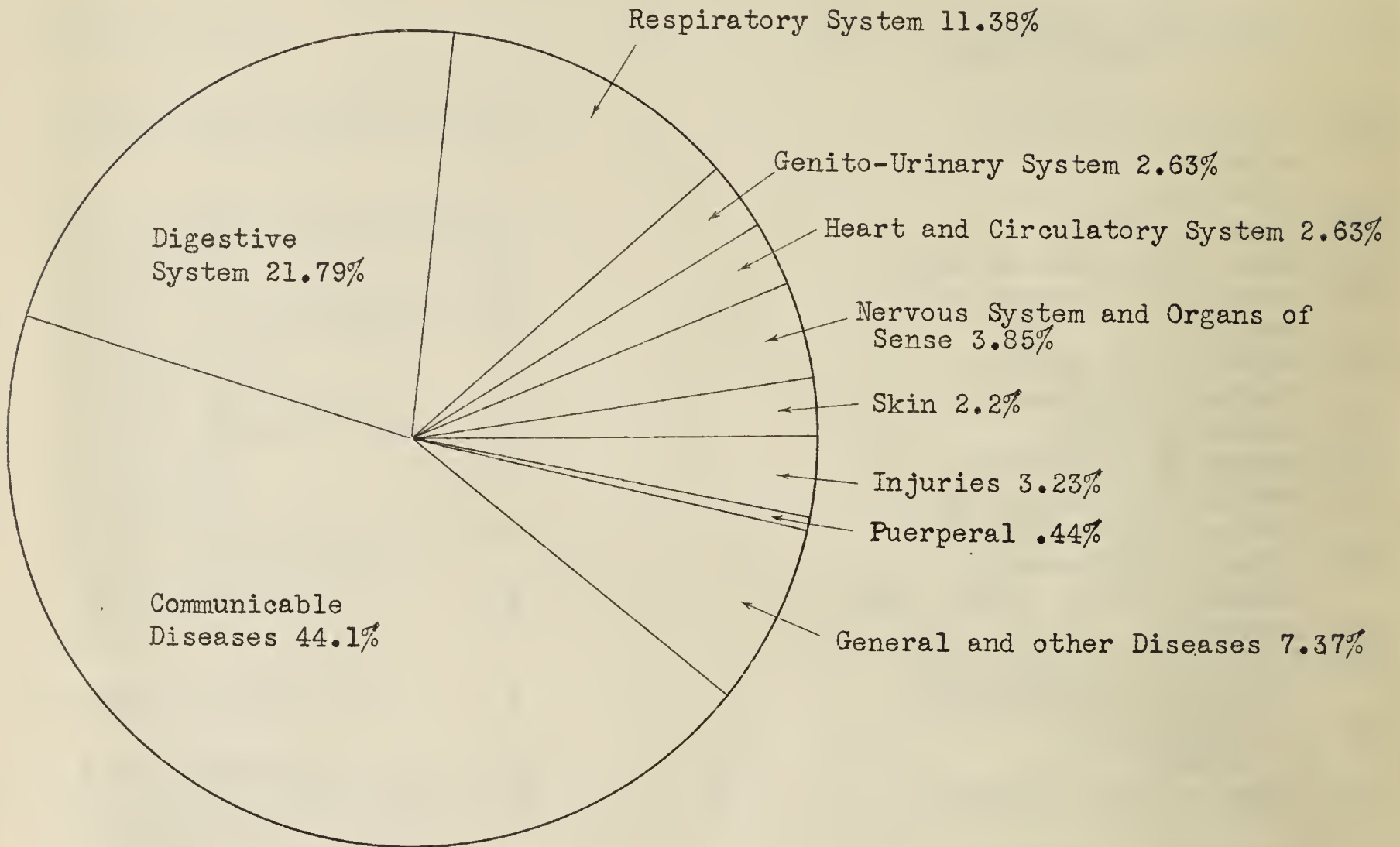
Diseases.	Remaining in Hospital 1931.	Yearly Total.		Total Cases Treated	Remaining in Hospital 1932.
		Admissions	Deaths.		
Brought forward . . .	11	380	18	391	31
VII. DISEASES OF THE GENITO-URINARY SYSTEM (Non-Venereal) (Contd)					
136. Diseases (non-Venereal) of the Genital Organs of Man - Orchitis . . .		4		4	
137. Cysts or other non-malignant Tumours of the Ovaries .		5		5	
138. Salpingitis - Abscess of the Pelvis .	1	3		4	
139. Uterine Tumours (non- malignant) . . .		2		2	
141. A. Metritis. . . .		1		1	
B. Other Affections of the Female Genital Organs - Dysmenorrhoea. . . .		15		15	
142. Abscess of Breast. . .		4		4	
VIII. PUERPERAL STATE.					
143. A. Normal Labour . .		12		12	
B. Accidents of Pregnancy - (a) Abortion . . .		5		5	
(b) Ectopic Gestation .		2		2	
(c) Other accidents of Pregnancy. . . .		4	2	4	
145. Other Accidents of Parturition		7		7	
146. Puerperal Septicaemia .		1	1	1	
149. Sequelae of Labour . .		1		1	
150. Puerperal Affections of the Breast		3		3	
IX. AFFECTIONS OF THE SKIN AND CELLULAR TISSUES .					
151. Gangrene		1		1	
152. Boil - Carbuncle		1		1	
153. Abscess - Cellulitis	1	5		6	
155. Other Diseases of the Skin - Eczema		3		3	
Herpes		2		2	1
X. DISEASES OF BONES AND ORGANS OF LOCOMOTION.					
156. Diseases of Bones - Osteitis	2	1		3	
157. Diseases of Joints - Arthritis		5		5	1
Synovitis		4		4	1
Carried forward . . .	15	471	21	486	34

Diseases.	Remaining in Hospital 1931.	Yearly Total.		Total Cases Treated	Remaining in Hospital 1932.
		Admissions.	Deaths.		
Brought forward . . .	15	471	21	486	34
XIV. AFFECTIONS PRODUCED BY EXTERNAL CAUSES (Contd.)					
176. Attacks of poisonous animals -					
Snake bite . . .	1	2		3	
178. Burns by (fire)		8	1	8	3
179. Burns (other than by fire)		4		4	
183. Wounds (by firearms, war excepted). . . .	1	5	1	6	1
184. Wounds by Cutting or stabbing instruments.		12		12	
185. Wounds (by fall) . . .		1		1	
187. Wounds (by machinery).		1		1	
188. Wounds, (crushing, e.g. Railway accidents, etc.)	2	11		13	
189. Injuries inflicted by animals, Bites, kicks, etc.		8		8	
199. Murder. . . .		1	1	1	
200. Murder of an infant under one year - Infanticide.		1	1	1	
201. A. Dislocation.					
C. Fracture	1	13		14	1
202. Other external Injuries	1	10		11	
XV. ILL-DEFINED DISEASES.					
204. Sudden Death (cause unknown)		1	1	1	
205. Diseases not already . specified or ill-defined.					
Ascites.		1	1	1	
Malingering	1			1	
XVI. DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED 10 DEATHS.					
		7		7	2
TOTAL :	22	557	27	579	41

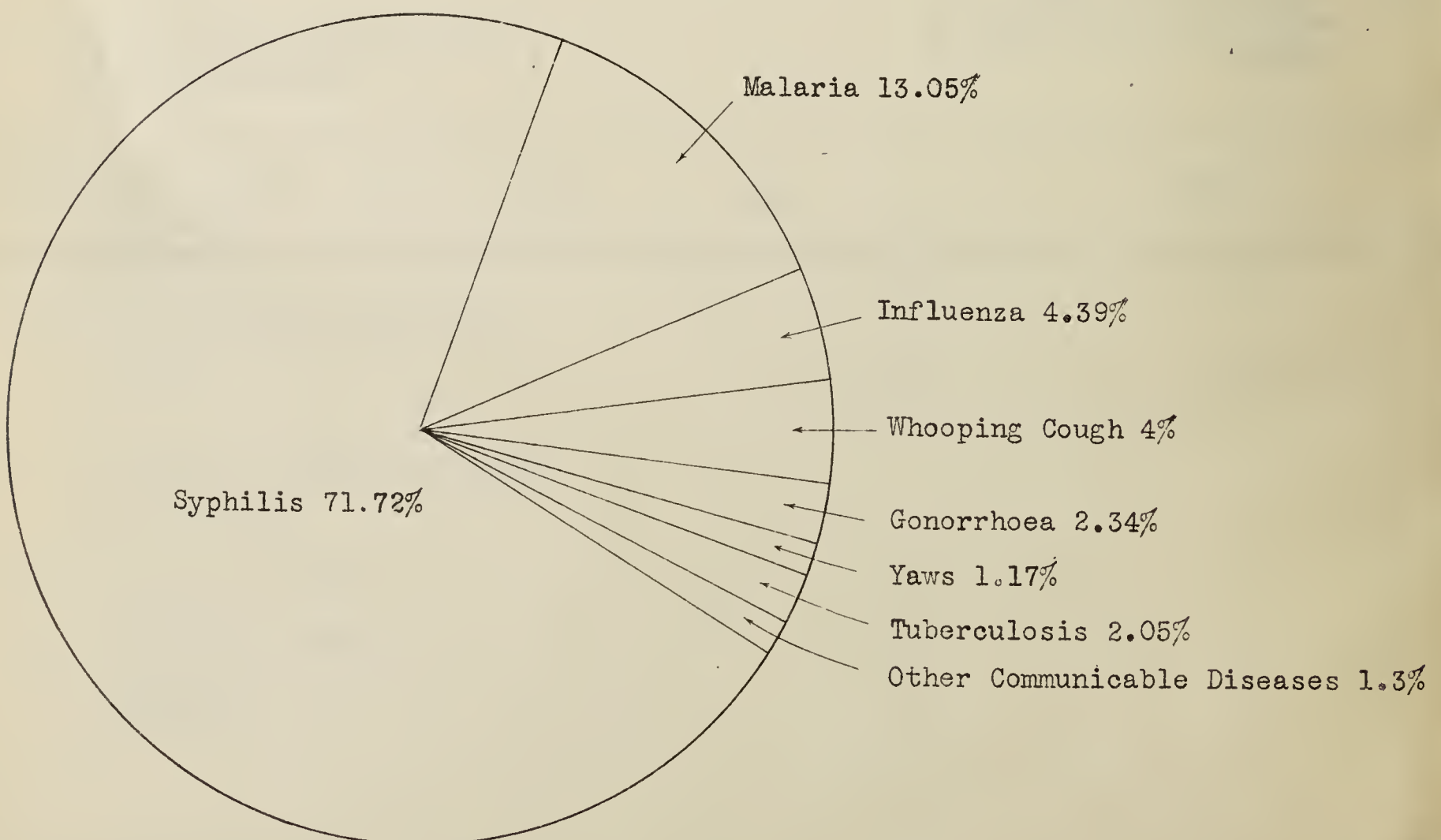
A P P E N D I X I I I .

Diagrams showing incidence of Diseases.

1. Total First Attendances - 22729.



2. Communicable Diseases. Total incidence - 10024.



A P P E N D I X I V. ---

Operations performed in Government Hospitals and Dispensaries. ---

Head and Neck.

Tonsillectomy	.	.	.	.	.	12
Tracheotomy	.	.	.	.	.	2
Enucleation of Eye	.	.	.	.	.	2
Iridectomy	.	.	.	.	.	1

Thorax.

Amputation of Breast	.	.	.	.	2
Resection of rib	.	.	.	.	1

Abdomen.

Appendicectomy	.	.	.	.	7
Hysterectomy	.	.	.	.	2
Herniotomy	.	.	.	.	3
Salpingectomy	.	.	.	.	2

General.

Orchidectomy	.	.	.	.	1
Curettage	.	.	.	.	3
Forceps delivery	.	.	.	.	4
Amputations	.	.	.	.	5
Sequestrotomy	.	.	.	.	2
Excision of Tumours	.	.	.	.	4
Plastic	.	.	.	.	19
Other minor operations	.	.	.	.	1468

BECHUANALAND PROTECTORATE TEMPERATURE RETURNS, 1931-32.

1931-32.	APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		JANUARY.		FEBRUARY.		MARCH.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
Ghanzi ...	82·93	51·57	82·35	45·48	73·40	38·53	72·45	35·87	81·74	42·10	86·43	48·97	90·87	59·13	88·77	62·57	92·10	63·58	93·29	64·19	89·72	64·55	81·5	61·5
Ngamiland ...	85·53	56·07	85·00	49·23	76·17	41·00	77·39	40·52	84·39	45·19	91·10	51·43	94·00	63·22	90·13	64·03	91·09	65·97	93·29	66·52	89·00	65·62	82·58	64·29
Kasane ...	82·23	62·73	79·00	58·87	68·57	48·83	65·00	46·45	75·90	51·35	93·57	59·40	96·52	66·45	88·40	65·80	87·89	66·00	90·64	67·16	87·38	67·76	84·38	65·22
Francistown	79·78	57·29	81·90	54·17	70·90	38·50	76·41	44·83	80·94	47·37	87·82	59·30	87·74	58·64	83·32	59·13	91·70	62·80	90·97	61·98	89·45	63·99	81·09	—
Palapye Road	86·77	54·90	82·84	43·55	74·77	34·07	73·00	37·97	81·39	38·65	89·80	48·13	88·29	60·26	83·50	61·67	91·81	65·16	89·90	64·90	89·86	65·41	81·29	63·32
Serowe ...	77·93	53·13	78·61	45·97	70·03	38·07	71·94	41·35	80·65	41·97	85·47	49·83	85·42	60·61	81·80	60·77	90·65	63·08	89·13	64·64	87·52	63·34	78·13	60·48
Selika ...	80·53	55·03	81·10	46·23	74·47	37·57	74·68	43·42	82·52	40·90	87·93	47·80	88·39	63·19	83·33	64·37	92·97	69·71	90·42	69·23	91·07	68·96	83·51	64·64
Gaberones ...	78·30	49·96	80·06	39·80	72·67	33·50	70·90	35·68	78·42	36·32	85·43	42·73	88·91	54·55	85·53	59·13	91·45	58·74	91·74	60·29	88·48	66·03	83·93	61·29
Kanye ...	72·18	52·22	75·19	51·13	66·60	42·53	64·96	41·32	74·08	48·43	79·55	51·38	83·87	57·92	79·48	61·28	86·18	63·42	87·20	63·34	81·69	62·93	77·46	60·54
Lobatsi ...	74·70	49·00	76·70	41·58	69·10	33·40	66·90	34·00	74·60	37·10	81·20	43·10	84·90	55·77	81·50	59·17	88·42	61·52	88·90	61·65	84·03	62·45	81·32	58·65
Molepolole ...	75·87	53·63	77·87	44·32	73·73	38·27	68·23	36·97	76·19	39·55	85·93	49·83	88·16	60·42	83·20	61·33	89·94	62·58	89·74	63·90	86·10	64·55	79·6	61·1
Total ...	876·75	595·53	880·62	512·33	790·41	424·27	781·86	438·38	870·82	468·93	954·23	551·90	977·07	660·16	928·96	679·25	994·19	702·56	995·22	707·80	964·30	715·59	894·79	621·03
Average ...	79·70	54·14	80·05	46·51	71·85	38·57	71·08	39·85	79·16	42·63	86·74	50·17	88·82	60·01	84·45	61·75	90·38	63·87	90·47	64·34	87·66	65·05	81·34	62·10

RAINFALL : 1931-32.

1931.		Ghanzi.	Ngamiland.	Kasane.	Francistown.	Palapye Rd.	Serowe.	Selika.	Gaberones.	Kanye.	Lobatsi.	Molepolole.
April	...	·25	1·41	1·03	2·72	2·8	1·93	3·09	3·13	2·48	2·93	·91
May	...	—	—	·30	—	—	—	—	—	—	—	—
June	...	—	—	—	·03	—	—	·02	—	—	—	—
July	...	—	—	—	—	·1	—	·34	·05	—	·01	—
August	...	—	—	—	—	—	—	—	—	—	—	—
September	...	—	—	—	—	—	·10	·04	—	—	—	—
October	...	1·19	·44	1·23	2·02	·91	1·51	·74	·89	1·15	·96	1·38
November	...	·06	1·83	4·24	4·58	6·18	4·81	3·03	2·37	5·10	3·48	3·51
December	...	1·56	1·64	2·05	2·84	·36	·46	·08	·69	2·48	3·70	2·20
1932.												
January	...	2·18	1·59	8·17	3·83	4·77	2·23	2·07	2·14	1·95	2·59	·70
February	...	2·61	6·86	2·84	4·31	1·87	2·13	1·94	3·13	4·24	4·46	3·84
March	...	6·06	10·82	6·32	8·19	3·62	3·81	4·90	1·57	2·70	2·57	4·85
Total	...	13·91	24·59	26·18	28·52	20·61	16·98	16·5	13·97	20·10	20·70	17·39

The Bechuanaland Protectorate lies, roughly, between 2,000 and 5,000 ft. above sea-level and only a few people live at the cooler altitudes of from 4,000 to 5,000 ft. The portion of the country inhabited by the greater number of both Europeans and natives is adjacent to the only line of railway, which passes through the eastern side of the territory for a distance of 403 miles ; the average altitude of the stations and sidings along this section of the line is 3,418 ft.

The approximate Latitude and Longitude of the various observation stations taken from the latest map of the Bechuana-land Protectorate (compiled by the Geographical Section General Staff, No. 2681 of 1912) is as follows :—

	Latitude S.	Longitude E.
Ghanzi (Gemsbok Pan)	... 21° 41'	21° 47'
Ngamiland (Maun)	... 20°	23° 30'
Kasane ...	... 17° 51'	25° 13'
Francistown	... 21° 9'	27° 28'
Serowe ...	... 22° 23'	26° 48'
Tuli Block (Selika)	... 23° 1'	27° 44'
Gaberones	... 24° 40'	25° 50'
Kanye ...	... 24° 59'	25° 18'
Lobatsi ...	... 25° 15'	25° 38'
Molepolole	... 24° 28'	25° 25'
Palapye Road ...	... 22° 30'	27° 4'

The time of observation is 8·30 a.m., and in all cases where this rule cannot be complied with a note must be made to that effect.

The self-registering thermometers are protected in the shade.

The rain gauges are placed in open positions free from obstruction from surrounding objects.

At the instance of the Union Government self-recording instruments, consisting of an anemobiagraph, barograph, hermo-graph and hygrograph, were installed at Ghanzi.

